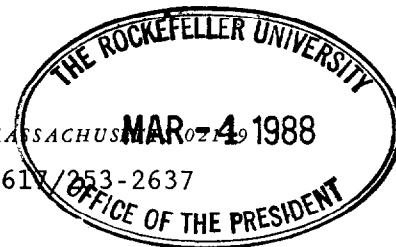


✓ 3/4/88
MASSACHUSETTS INSTITUTE OF TECHNOLOGY CAMBRIDGE, MASSACHUSETTS 02139
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March 1, 1988

Dr. Joshua Lederberg
The Rockefeller University
New York, New York 10021-6399

Dear Josh:

I cannot exclude the possibility that a *crp* or *cya* mutant would register negative for glucose fermentation, but since these mutants grow quite well on glucose I think it is unlikely. The mutants you called Lac₃ are more likely *ptsI* or *ptsH* mutants, defective in either enzyme I or HPr of the phosphotransferase system for sugars. These mutants grow slowly on glucose; they fail to phosphorylate the protein III^{Glc} which blocks the uptake of lactose and maltose by their respective permeases. In addition, the lack of III^{Glc}-phosphate appears to reduce the rate of cyclic AMP formation. You can find a good discussion of the effects of these mutations in the chapter by Postma on page 127 of the first volume of the *E. coli*-*S. typhimurium* book.

With best regards,

Yours,

Boris Magasanik
Jacques Monod Professor
of Microbiology

BM:hhr